

From: [Openchowski, Charles](#)
To: [Ammon, Doug](#)
Cc: [Walker, Stuart](#); [Bartenfelder, David](#)
Subject: RE: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan
Date: Thursday, August 15, 2013 9:54:00 AM

Thanks, Doug – it's fine with me if you'd like to forward to the Region my email (below) as a compilation of Board members' concerns, comments and recommendations that seem to be on point (i.e., what I sent below does not represent *my* comments or final headquarters comments; rather, it reflects the Board's thoughts, comments, concerns etc on the subject of landfill covers expressed in Board draft memos, which I believe is the most appropriate way to proceed in light of the Board's review of the site in February, 2012). thanks

From: Ammon, Doug
Sent: Wednesday, August 14, 2013 4:08 PM
To: Openchowski, Charles
Cc: Walker, Stuart; Bartenfelder, David
Subject: RE: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

Charles,
Given David Bartenfelder's review of the Alternative Landfill Covers Work Plan and the prior comment memo, can I forward your comments (below in this email) as the final headquarters comments or will you have additional comments?

From: Openchowski, Charles
Sent: Wednesday, July 31, 2013 4:01 PM
To: Ammon, Doug
Cc: Walker, Stuart; Bartenfelder, David
Subject: FW: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

Hi Doug, on this workplan, I had asked how you would like to proceed (see email below) – I went back and couldn't find a reply, so all I can offer at this point is that the Board's draft recommendation memos, as well as the technical consultation document signed in February of this year, all indicate:

The package presented to Board described an alternative as a hybrid cap/cover design incorporating both Resource Conservation and Recovery Act (RCRA) Subtitle D and Uranium Mill Tailings Radiation Control Act (UMTRCA) cover design features applied to an existing unlined landfill. However, the package lacked sufficient information on the long-term protectiveness of this alternative. Specifically, how the cap/cover remains protective given the increasing daughter ingrowth concentrations of radium 226/228, radon 222, and the increase in toxicity over time (1,000 years).

Both of these cover designs (RCRA Subtitle D and UMTRCA) have shortcomings for RIM waste itself, especially in a humid region. A comparison of various landfill capping designs addressing both humid region conditions and long-term protection from RIM (1,000 years) would be an important concept for the preferred remedy. However, the package did not appear to include alternative cap designs, i.e., EPA landfill cap guidance design, existing cap designs for similar RIM at Weldon Springs, or evapotranspiration cover cap system designs (OSWER Fact Sheets: EPA 542-F11-001, February 2011, *Fact Sheet on Evapotranspiration*

Cover Systems for Waste Containment). For example, a RCRA Subtitle C/UMTRCA hybrid may be suitable for both long-term infiltration management and radiation shielding protection. The Board suggests that the Region include in its remedy selection process evaluations of cap designs similar to, but not limited to, the above conditions and guidances.

The alternative cover designs workplan addresses some of this, but not all of it (for example, the Board specifically mentioned Weldon Springs, the work plan does not). I'm happy to work more on this if you'd like – in the meantime, I'll pass along a similar note to Dan/others in response to your email from the other day. Thanks

From: Charles Openchowski [<mailto:openchowski.charles@epamail.epa.gov>]
Sent: Wednesday, July 31, 2013 1:27 PM
To: Openchowski, Charles
Subject: Fw: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

----- Forwarded by Charles Openchowski/DC/USEPA/US on 07/31/2013 01:26 PM -----

From: Charles Openchowski/DC/USEPA/US
To: Dan Gravatt/R7/USEPA/US@EPA
Cc: David Bartenfelder/DC/USEPA/US@EPA, DeAndre Singletary/SUPR/R7/USEPA/US@EPA, Doug Ammon/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA, Stuart Walker/DC/USEPA/US@EPA
Date: 02/06/2013 01:31 PM
Subject: Re: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

ok, thanks Dan --

▼ Dan Gravatt---02/06/2013 12:03:27 PM---I would have preferred to have HQ's comments on the first four SSFS workplans (which we received in

From: Dan Gravatt/R7/USEPA/US
To: Charles Openchowski/DC/USEPA/US@EPA
Cc: David Bartenfelder/DC/USEPA/US@EPA, DeAndre Singletary/SUPR/R7/USEPA/US@EPA, Doug Ammon/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA, Stuart Walker/DC/USEPA/US@EPA
Date: 02/06/2013 12:03 PM
Subject: Re: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

I would have preferred to have HQ's comments on the first four SSFS workplans (which we received in November and December 2012) already, but the message the HQ review team gave to the Region in our conference call on January 9 was that HQ wanted to see all six of the SSFS workplans before commenting on any of them. Therefore, I would ask to see the HQ review team's comments within a week after receiving the sixth and final SSFS workplan (which will concern groundwater fate-and-transport modeling). I do not have an estimate from the PRPs contractor on when to expect the sixth SSFS workplan.

Sincerely,
Daniel R. Gravatt, PG
US EPA Region 7 SUPR / MOKS
11201 Renner Boulevard, Lenexa, KS 66219
Phone (913) 551-7324

Principles and integrity are expensive, but they are among the very few things worth having.

▼ Charles Openchowski---02/06/2013 10:40:05 AM---thanks for sending this along, Dan -- do you have a timeframe in mind? Doug, how would you like to h

From: Charles Openchowski/DC/USEPA/US
To: Dan Gravatt/R7/USEPA/US@EPA
Cc: David Bartenfelder/DC/USEPA/US@EPA, DeAndre Singletary/SUPR/R7/USEPA/US@EPA, Doug Ammon/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA, Stuart Walker/DC/USEPA/US@EPA
Date: 02/06/2013 10:40 AM
Subject: Re: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

thanks for sending this along, Dan -- do you have a timeframe in mind?

Doug, how would you like to handle this one? thanks

▼ Dan Gravatt---02/05/2013 08:17:11 AM---This is the fifth workplan for the SSFS for your review and comment. The sixth one concerning groun

From: Dan Gravatt/R7/USEPA/US
To: Stuart Walker/DC/USEPA/US@EPA, David Bartenfelder/DC/USEPA/US@EPA, Ron Wilhelm/DC/USEPA/US@EPA, Charles Openchowski/DC/USEPA/US@EPA, Doug Ammon/DC/USEPA/US@EPA
Cc: DeAndre Singletary/SUPR/R7/USEPA/US@EPA
Date: 02/05/2013 08:17 AM
Subject: West Lake Landfill, Fw: Alternative Landfill Covers Work Plan

This is the fifth workplan for the SSFS for your review and comment. The sixth one concerning groundwater fate-and-transport modeling has not yet been provided by the PRPs.

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----- Forwarded by Dan Gravatt/R7/USEPA/US on 02/05/2013 07:12 AM -----

From: "Paul Rosasco" <paulrosasco@emsidenver.com>
To: Dan Gravatt/R7/USEPA/US@EPA, Audrey Asher/R7/USEPA/US@EPA
Cc: "Muenks, Shawn" <shawn.muenks@dnr.mo.gov>, "Merrigan, Jessie \ (LG)" <JMerrigan@LATHROPGAGE.COM>, "Charlotte L. Neitzel" <charlotte.neitzel@bryancave.com>, "Kate Whitby" <kwhitby@spencerfane.com>, "Warren, Victoria" <VWarren@republicservices.com>, "Beck, Bill" <WBeck@LathropGage.com>, <steven.golian@em.doe.gov>, "Steve Miller" <steven.miller@hq.doe.gov>, "Christina Richmond" <Christina.Richmond2@usdoj.gov>, "Dan Feezor" <dfeezor@feezorengineering.com>, "Mike Bollenbacher" <mikeb@auxier.com>, "Bob Jelinek" <bobjelinek@emsidenver.com>
Date: 02/04/2013 08:19 PM
Subject: Alternative Landfill Covers Work Plan

Attached please find the Work Plan for evaluation of Alternative Landfill Cover Designs.

[attachment "Work Plan - Alternative Cover Designs 2-3-13.pdf" deleted by Charles Openchowski/DC/USEPA/US]